

## CASE STUDY

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# Reducing Costs for a Specialty Steel Manufacturer

*with Pellets Stainless Steel Cut Wire Shot and the MagnaValve®*

### THE SITUATION

A special alloy steel rolling, shearing and finishing company uses shot blast equipment with four blast wheels loaded with cast steel shot to prepare the surface of their high-alloy steel sheets. These steel sheets then must be further blasted with aluminum oxide to remove the contaminants left on the surface by the cast steel shot blasting operation.

Management wanted to discontinue the secondary blasting operation in order to improve throughput, handling efficiency, and reduce operating and media costs.

### THE PROPOSAL

Pellets LLC suggested that stainless steel cut wire shot be used to eliminate the contaminants left behind by cast steel shot thus eliminating the need for the secondary aluminum oxide blasting operation.

Convinced this was a good idea, the customer's blast systems were totally cleaned out of cast steel shot and stainless steel cut wire shot was introduced to the blast units. The revised blasting operation was initiated and the sheet finish was terrific, dust levels were significantly reduced, and media was lasting much, much longer.

There was a problem, however, with using stainless steel cut wire shot with the company's MagnaValves from Electronics Inc. as they did not efficiently meter stainless steel

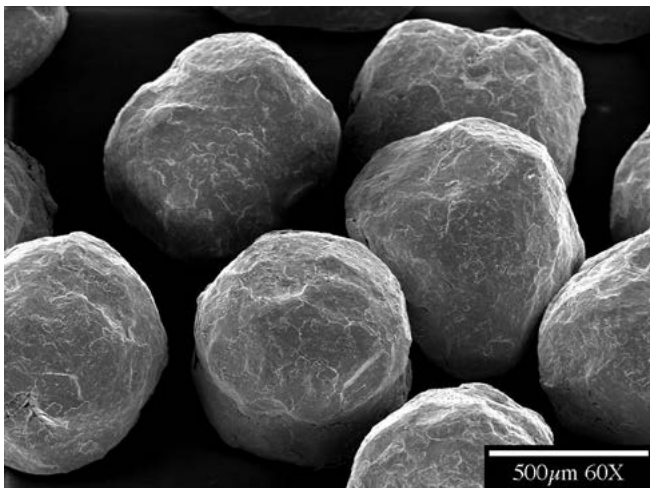
cut wire. There was significant leakage when shutting down the equipment.

### THE FIX

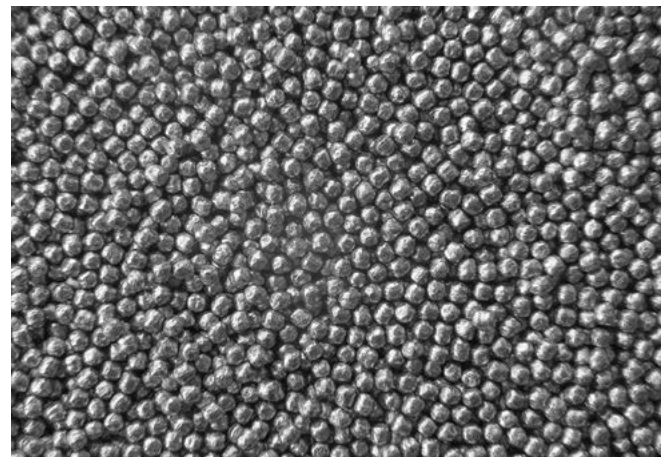
Pellets LLC and Electronics Inc. went to work looking for a solution to this problem. The stainless steel cut wire shot was working beautifully, leaving an excellent clean surface on the steel sheets and producing much less dust but the MagnaValves were not working as they should with the stainless steel cut wire shot.

Jack Champaigne (President of Electronics Inc.) with the help of Tim Deakin (Metallurgical Engineer from Pellets LLC) set up bench tests using a working mix of stainless steel cut wire shot from the customer. After several attempts to optimize a modified MagnaValve, the VLP-24-JR valve was developed and in tests it controlled the stainless steel cut wire flow perfectly.

The four MagnaValves at the company's facility were modified with this new concept on a trial basis. The new MagnaValves are working great with the blast equipment and the stainless steel cut wire shot. Each blast wheel is operating at the desired set amps/media flow rates to produce a consistent blast cleaned work piece every time and the leakage issue has disappeared. ●



*Pellet's conditioned stainless steel cut wire shot at 60X magnification*



*Pellet's SCWC 62*